

Appl. No. 10/827,057  
Amendment dated January 26, 2006  
Reply to Office Action of October 27, 2005

**AMENDMENTS TO THE DRAWINGS**

The attached sheets of drawings include amendments to Figs. 1 through 4, and 6 through 9; in each case the amendment is to add the previously omitted reference number 2. The accompanying replacement drawings replace all of the original sheets of drawings.

Attachments: 8 replacement sheets

8 annotated sheets showing changes

**REMARKS**

Claims 1, 2, 9, 11-13, 31, 34, and new Claims 35 and 36 are pending in the case, of which Claims 1, 9, 31, and 35 are independent claims. Claims 35 and 36 read on at least Species A (Fig. 1) as defined in the Restriction Requirement of December 14, 2004. Claims 3-8, 10, 14-30, 32, and 33 have been cancelled. Favorable reconsideration of the application, as amended, is respectfully requested.

**DRAWINGS**

Replacement drawings are enclosed as an attachment. The drawings contain amendments to add reference number 2 to Figs. 1-4, and 6-9. Reference number 2 is referred to in the text, for example on page 4, line 11, to refer to a "vehicle brake module".

**AMENDMENTS TO THE SPECIFICATION**

Minor editorial corrections to the paragraph beginning on line 26 of page 5 of the Specification were made.

**CLAIM REJECTION - Claims 1 and 2**

The Examiner rejected claims 1 and 2 under 35 U.S.C. 102(b) as being unpatentable in light of Campau et. al. '608, or, alternatively, under 35 U.S.C. 103(a) as being obvious over Campau et. al. '608.

Campau et al. '608 discloses an EHB system in which the normal supply (including the pump 42, and various control valves 51 a, b, c, and d) provide normal braking *and* ABS functions of pressure release and reapply (see col. 12, line 51 - col. 13, line 54).

Amended claim 1 recites, in part that the claimed brake module comprises, "a body formed separately from the ABS unit and the master cylinder", and "an electrically operated pump mounted on said body, the pump being plumbed to urge brake fluid through said first circuit."

Note that the pump mounted on the body of the module is not needed to perform ABS functions, as the brake system in which the module is designed to be installed in will have a separately formed ABS unit that provides ABS function (anti-lock braking functions). The module, when installed in such a brake system, acts as a normal source of pressurized fluid to pressurize fluid supplied to wheel brakes *through the ABS unit*. The module does not perform ABS function, which are instead performed by the separate ABS unit already supplied with the brake system. Such an arrangement is not taught or suggested by Campau et al. '608. Neither is such an arrangement made obvious in light of Campau et al. '608. Accordingly, Claim 1 is therefore allowable.

Claims 2 depends from Claim 1 and is also allowable over the cited art for at least the same reasons as Claim 1.

#### **CLAIM REJECTIONS - 35 U.S.C. 103**

The Examiner rejected Claims 9-12, and 31-34 under 35 U.S.C. 103(a) as being unpatentable over Campau et. al. '608 in view of Arwine , Tanaka or Ganzel '582. This rejection is respectfully traversed.

#### **Claims 9 and 31 patentably claim a brake module and second brake module**

Contrary to the Examiner's assertion, the cited references fail to show or suggest "a first brake module" and "a second brake module" where both the first and second brake modules contain hydraulic components, and more particularly (as claimed) with the first brake module containing "fluid separator units" and the second brake module containing "fluidic components" providing an antilock braking function.

The Examiner states that it would be "obvious to have supplied the device of Campau et al. with any or all of the modules claimed [in] claims 10-12, as suggested by either Arwine et al. or Tanaka et al. or Ganzel '582." In an earlier action (mailed April 7, 2005), the Examiner asserted that the references show a second brake module, citing Campau et. al. '608 brake module at 10, Arwine et al. modules at 26 and 78, Ganzel '582 plurality of modules in columns 1 and 2, and Tanaka et al. in figure 1 at elements 21-24, and 37 (Office Action, page 6, first paragraph.) In response (in the Amendments dated June 7, 2005 and October 7, 2005), Applicant pointed out that the various modules referred to by the Examiner were *electronic control modules*, not *brake modules* as claimed by Applicant. In the most recent Office Action, the Examiner indicates that Applicant's arguments filed with the October 7, 2005 Amendment were fully considered but were moot in view of the new grounds of rejection. However, the Examiner then turns around and rejects these claims on the same grounds, which is puzzling to the Applicant. Therefore, in an effort to advance the prosecution of these claims, Applicant has amended independent Claims 9 and 31 to more clearly indicate that the first and second brake modules contain fluidic components, and not electronic modules of the manner of the cited references. Furthermore, these brake modules have a non-obvious division of functions not taught or suggested by the prior art, where the first brake module has fluid separators in it, and the second brake module has fluidic components providing specific braking functions ('an ABS function', meaning an antilock braking function, is recited in Claim 9 while 'at least one of an antilock braking function and a traction control function' is recited in Claim 31). Furthermore, in a sincere effort to more clearly distinguish the claimed subject matter for the Examiner, Claims 9 and 31 also now recite that the brake systems contain separate electronic control modules for controlling the separate brake modules.

Modularity

The rejection states that “a second brake module” per se, are old and well known in the art and that it would have been obvious to have supplied the device of Campau et. al. '608 with any or all of the modules claimed in 10-12 simply to improve the safety of the vehicle or to add some degree of modularity to make replacement of component parts easier and/or less expensive. The rejection further states it is old and well known to make plural parts singular and vice-versa dependent upon such well known engineering considerations as simplicity of design, cost, and parts repair/interchangeability.

The Federal Circuit has consistently said that in order for references to be properly combined they must contain some teaching or suggestion of the proposed combination. In *Panduit v. Dennison Manufacturing Co.*, 1 U.S.P.Q.2d 1593, 1597 (Fed. Cir. 1987), the Federal Circuit reviewed the District Court's finding that a plastic cable tie was obvious based on prior art under 35 U.S.C. 103. The District Court had concluded that *Panduit*'s cable tie was obvious because its components had separately appeared in prior patents. The Federal Circuit noted that the District Court, “improperly treated all cable ties as virtually interchangeable ....” *Panduit* at 1600. In reversing the District Court, the Federal Circuit noted that the prior art as a whole must suggest the combination claimed in the application; and “hindsight reconstruction from similar elements in separate prior patents would necessarily destroy virtually all patents and cannot be the law under 35 U.S.C. 103.” *Panduit* at 1603, citing, *Akzo N.V. v. International Trade Commission*, 1 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1986), and *W.L. Gore & Associates, Inc. v. Garlock*, 220 U.S.P.Q. 303, 312 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 461 (1984).<sup>1</sup>

In the present invention, the brake module includes those components selectively disposed and arranged in an architectural layout for efficiently and

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<sup>1</sup> See also, *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984); *Carella v. Starlight Archery, Inc.*, 231 U.S.P.Q. 644, 647 (Fed. Cir. 1986); and *Fromson v. Advance Offset Plate, Inc.*, 225 U.S.P.Q. 26,31 (Fed. Cir. 1985).

seamlessly generating and applying hydraulic boost to pressurize the braking fluid and control the fluid flow rate to a second brake module. The brake module of the present invention provides normal braking functionality as well as manual push through braking functionality to the vehicle brakes when the secondary braking operations are not being utilized. However, the apply/dump valves and other associated valves required for secondary braking operations, such as anti-lock braking, are disposed within the second brake module. The present invention provides an advantage of cooperatively implementing a hydraulic boost apply brake module into a braking system that includes a second brake module for secondary braking operations without having to redesign an entirely new integrated braking system to incorporate the hydraulic boost of the brake module with the secondary braking operations of the second brake module.

Here the rejection is treating all the references that contain any mention of the components proportion valve or control module as interchangeable and is attempting to justify an improper hindsight combination because “One having ordinary skill in the art at the time the invention was made would have found it obvious to have supplied the device of Campau et. al. '608 with any or all of the modules claimed....” (Office Action, Section 6, third paragraph). If applicants' apparatus could be reconstructed without the prior art as a whole suggesting the combination claimed, such hindsight reconstruction from similar elements in separate prior patents would necessarily destroy virtually all patents or be impossible for anyone to obtain a patent for any type of improved brake actuation mechanism. That is, any patent that claims the mere words proportional valve, isolation valve, and brake module would be deemed prior art and unpatentable. Each of the elements as claimed including the architectural layout and their interactive functionality with one another is to be taken as a whole to determine nonobviousness. To merely conclude that such individual components are old and well known in the art and that any invention utilizing the combination of such

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components are obvious would negate the issuance of any future patents utilizing these components.

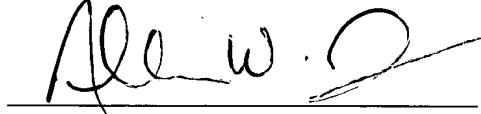
Furthermore, even if the prior art references were combined, the references fail to describe each and every aspect of applicants claimed invention as recited in the amended claims, as discussed above.

Accordingly, Amended Claims 9 and 31 are seen to be allowable, as are the claims which depend therefrom (11-13 and 34) are also allowable for at least the same reason.

Concluding Remarks

In view of the foregoing amendment and remarks, all pending claims are in condition for allowance. Favorable action is respectfully solicited.

Respectfully submitted,



Allen W. Inks  
Reg. No. 37,358

MacMillan, Sobanski & Todd, LLC  
One Maritime Plaza, Fourth Floor  
720 Water Street  
Toledo, Ohio 43604  
Tel: 734-542-0900  
Fax: 734-542-9569



ANNOTATED SHEET  
MODULAR REGENERATIVE BRAKING  
Name of Inventor: Blaise Ganzel  
Name & Telephone Number of Person to Call if Necessary:  
Allen W. Inks: (419) 255-5900  
Serial No. 10/327,057 Docket No.  
Sheet 1 of 8 1-24765

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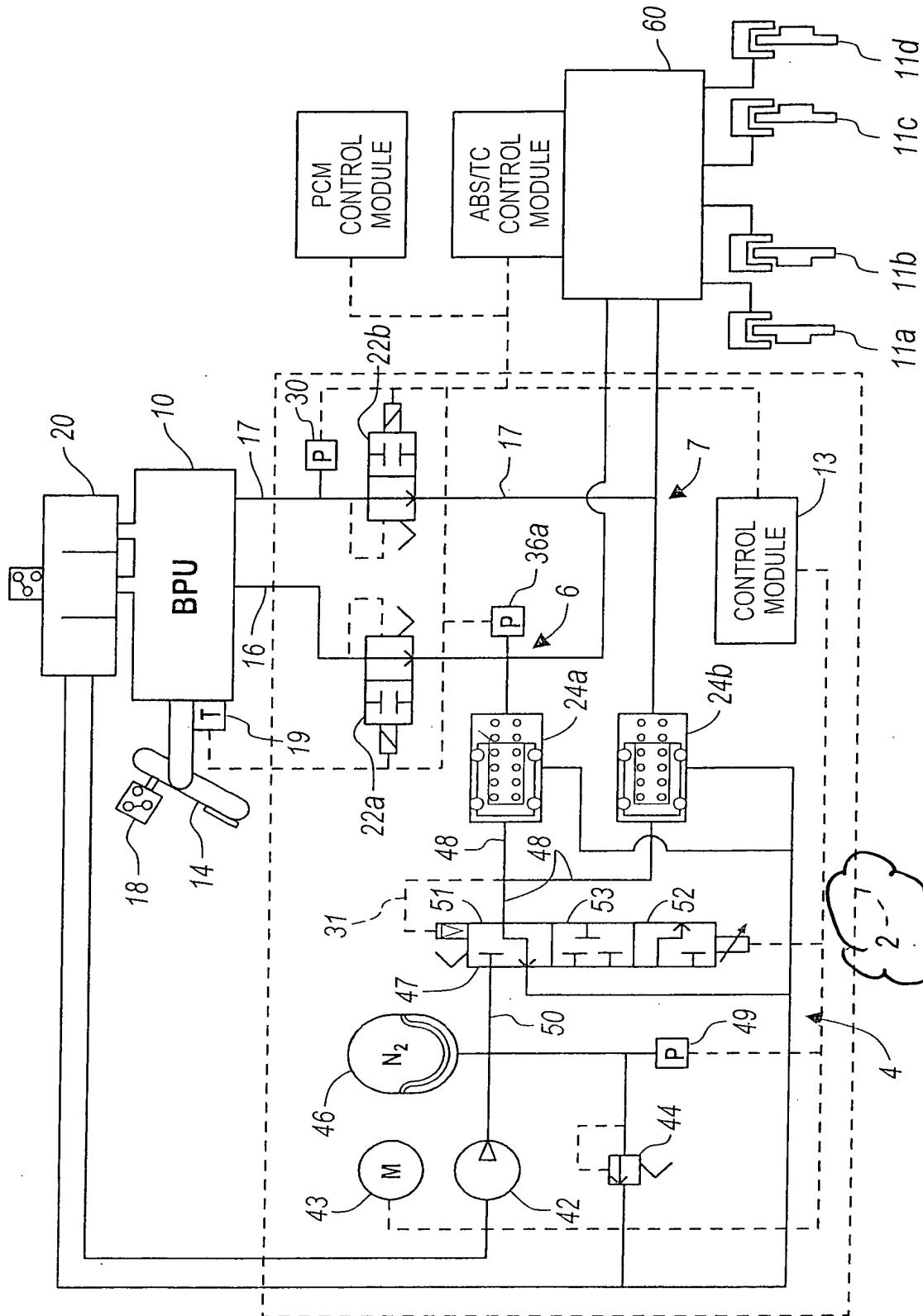


FIG. 1

*added*

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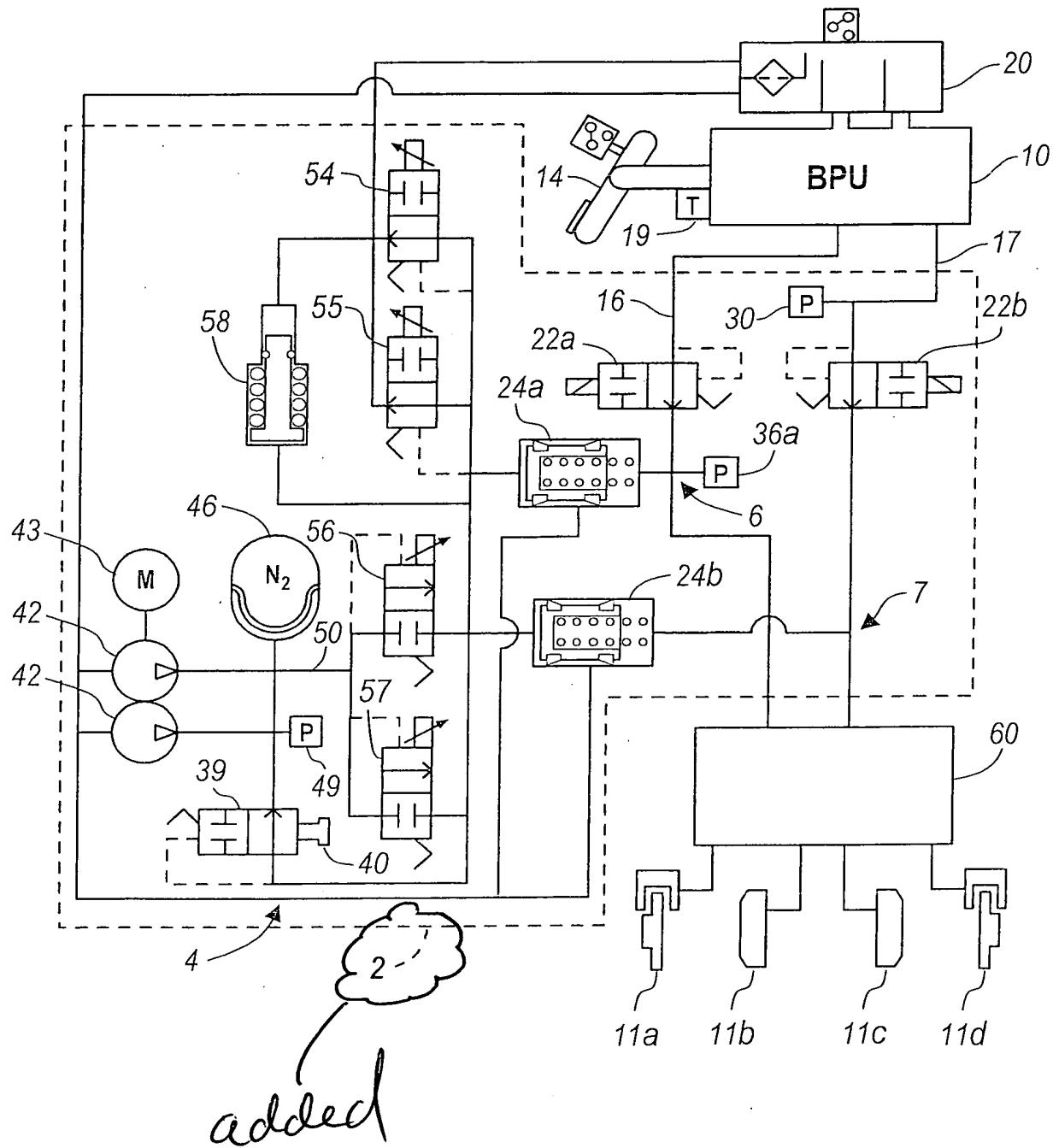


FIG. 2

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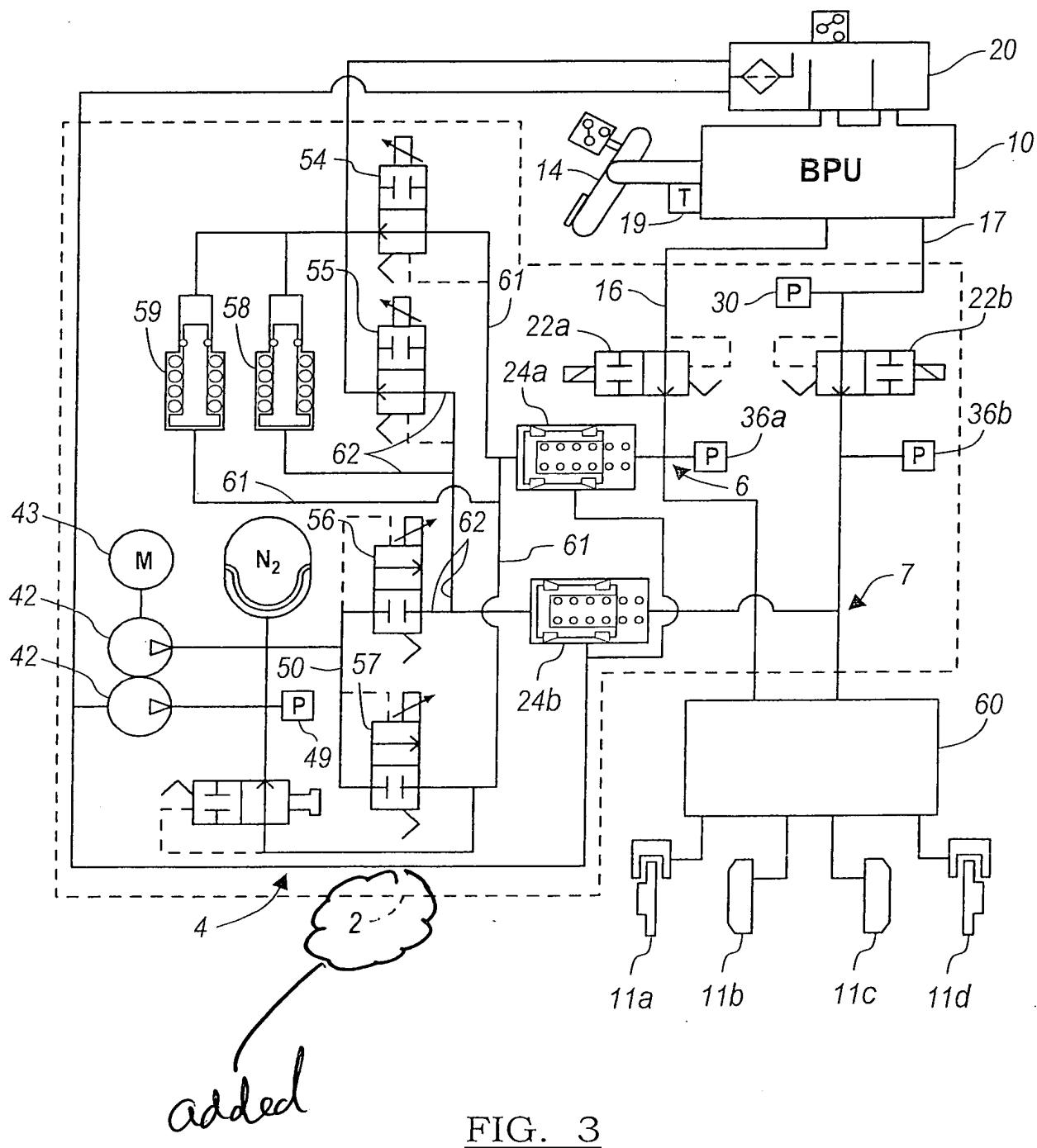


FIG. 3

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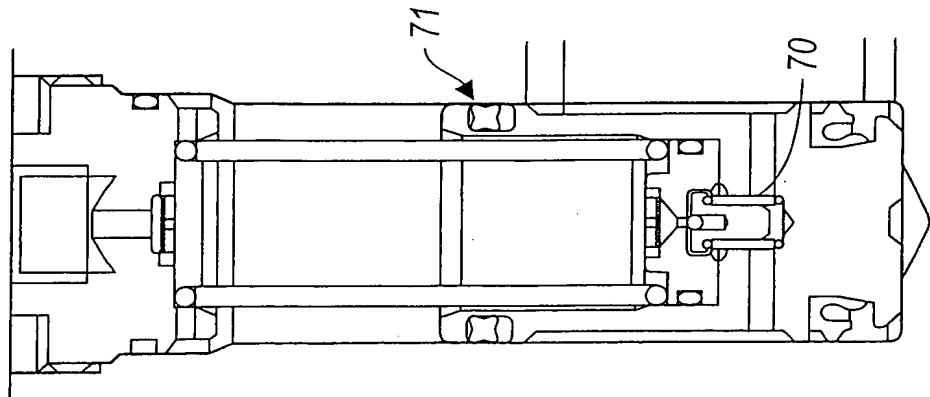


FIG. 5

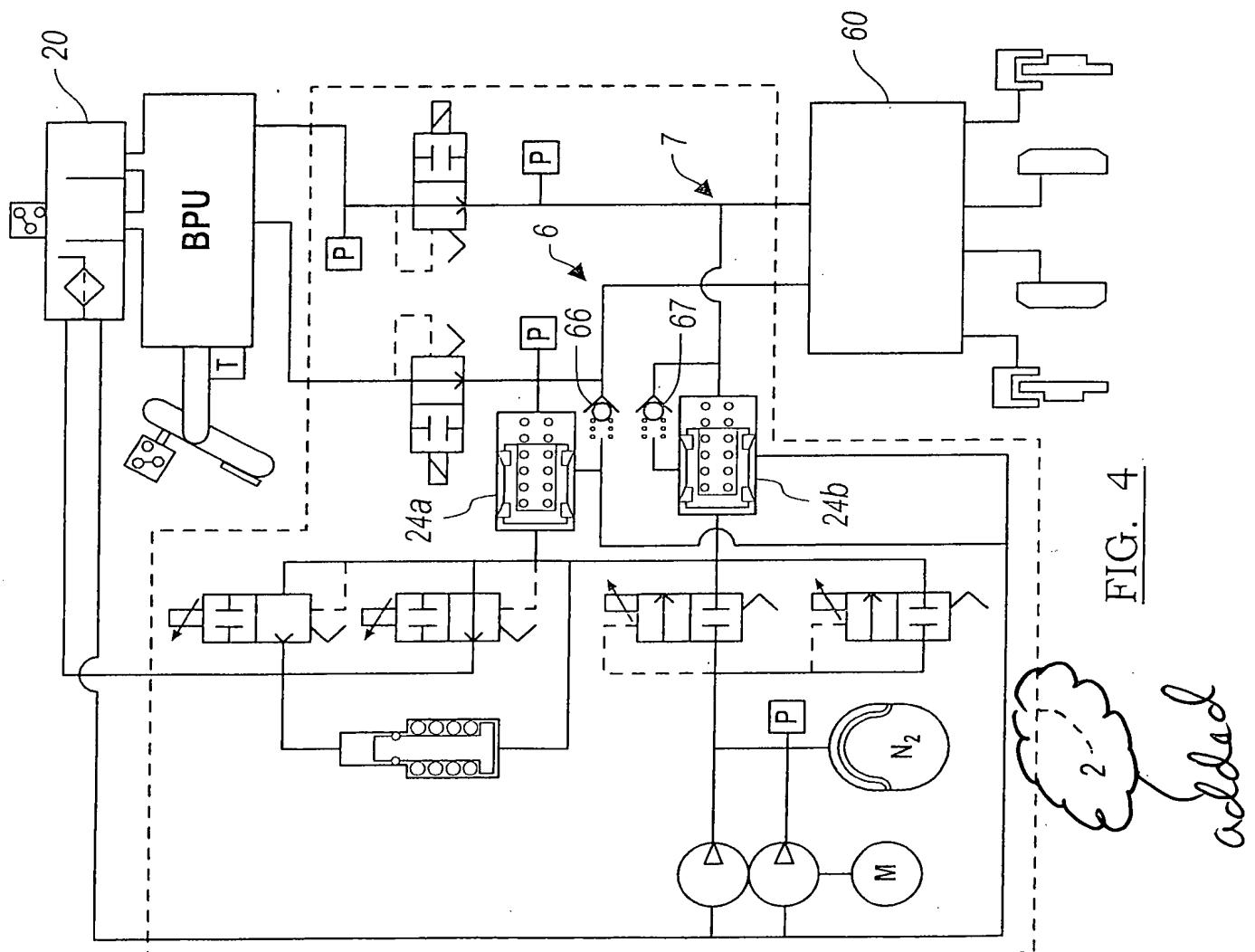


FIG. 4

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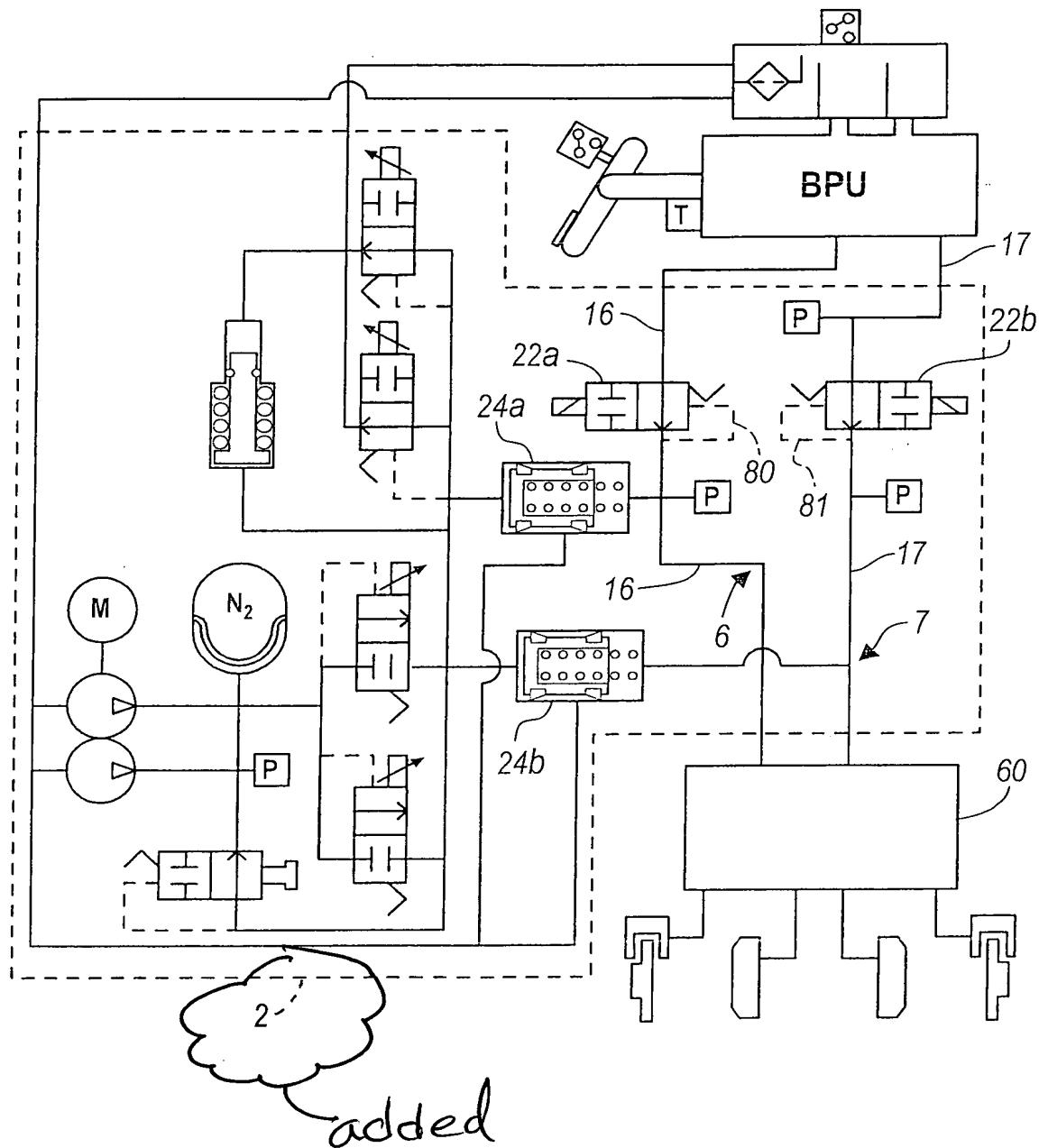


FIG. 6

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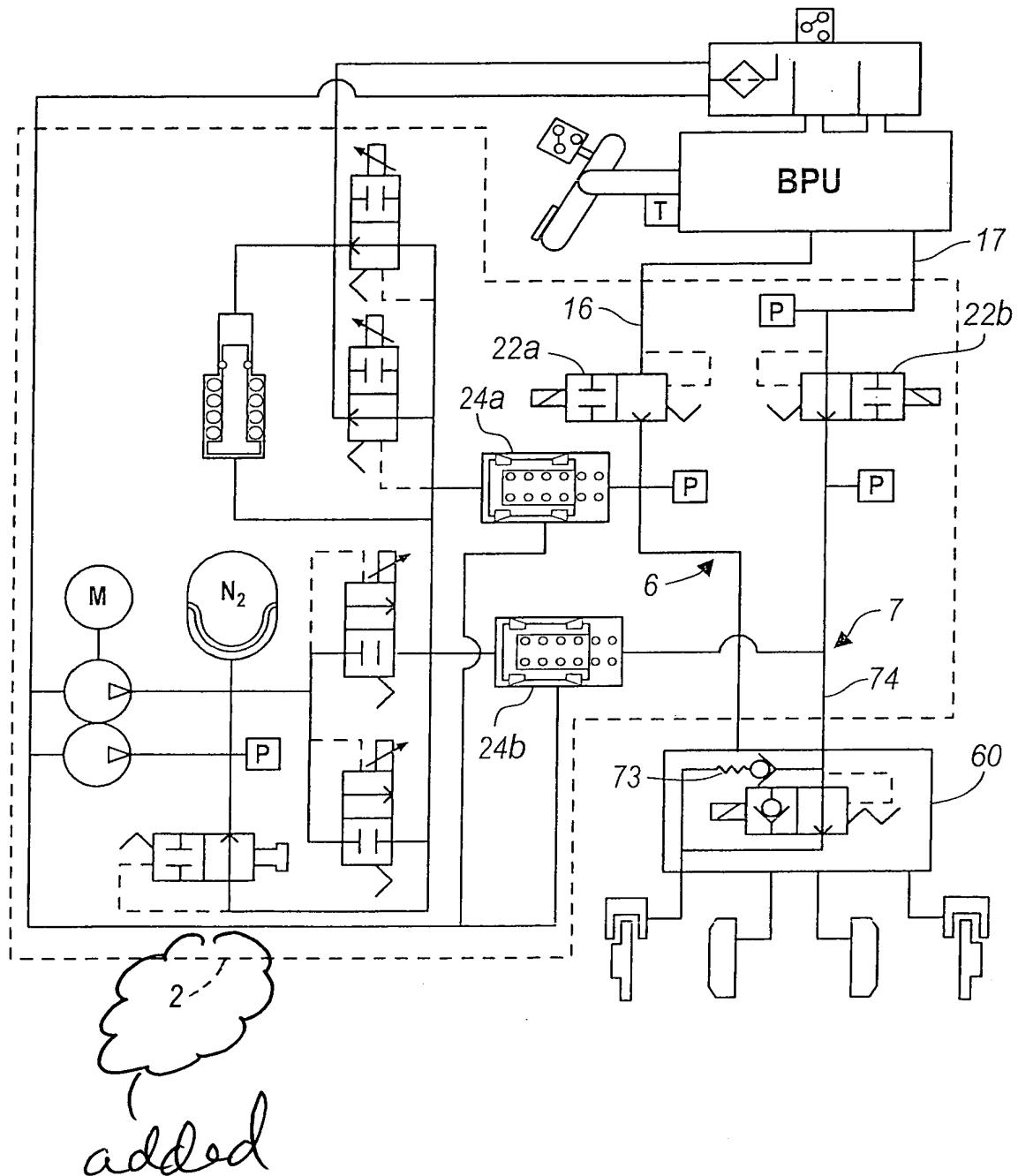


FIG. 7

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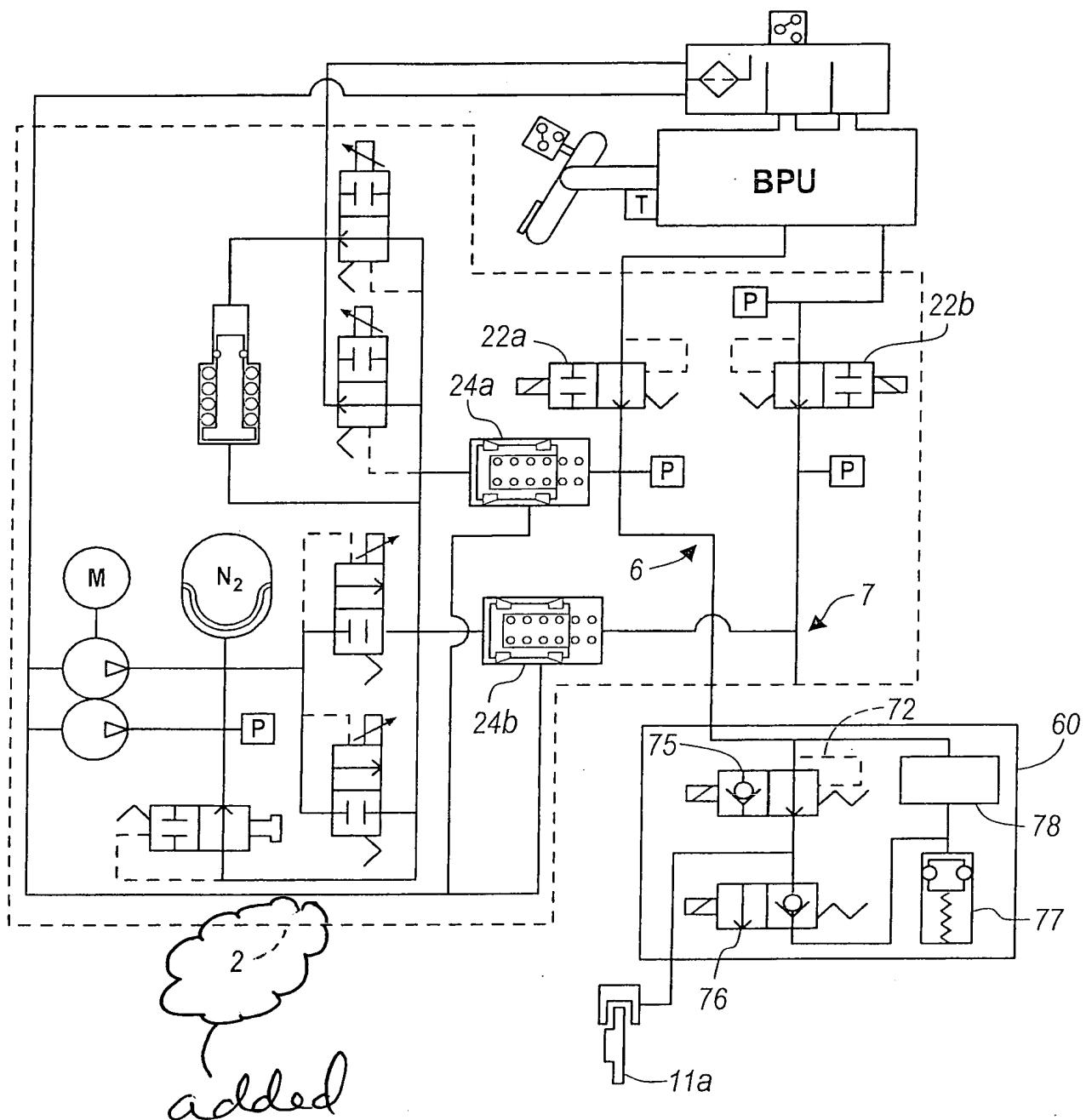


FIG. 8

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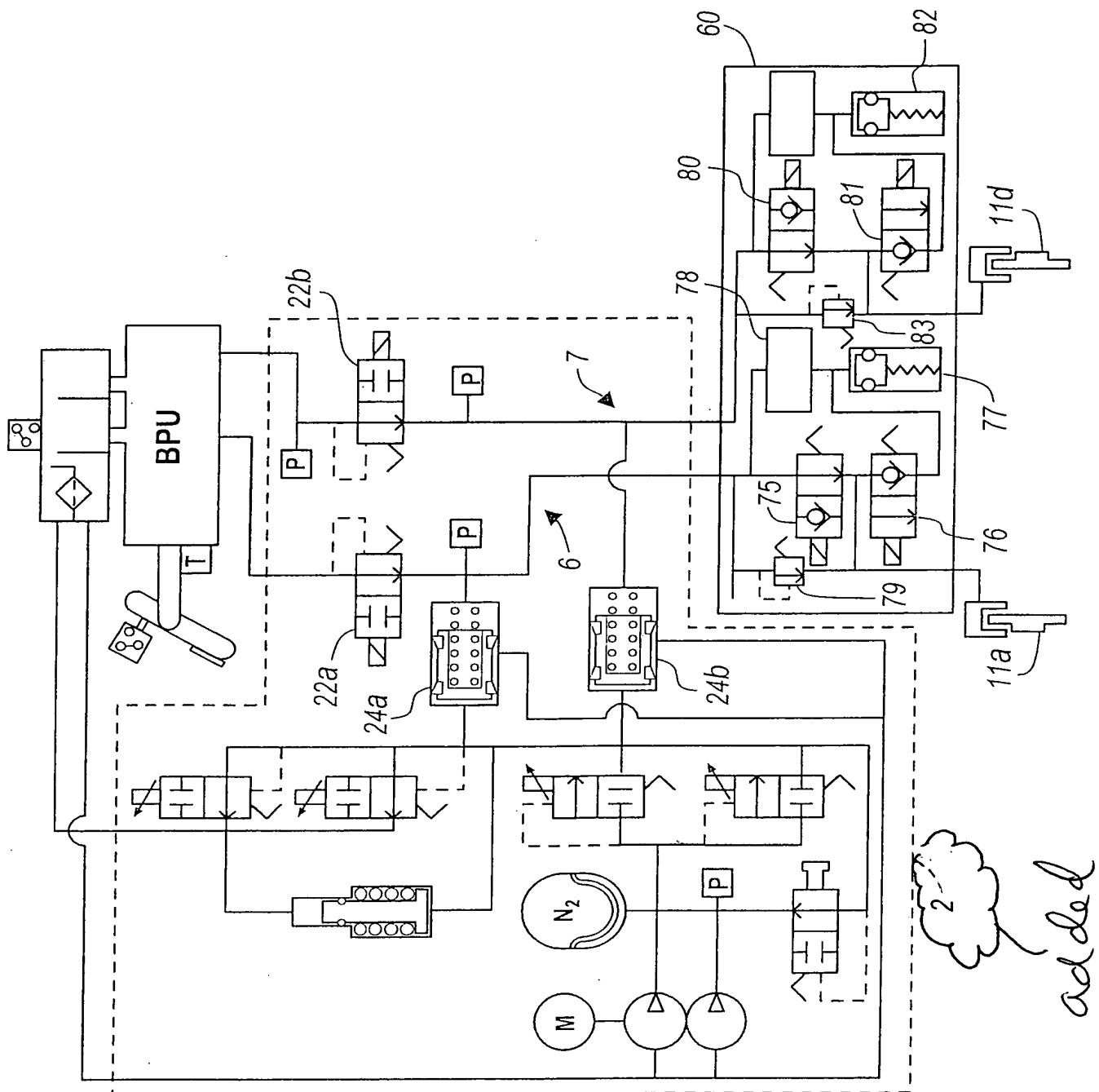


FIG. 9